Calendar of Scientific Pioneers.

September 29, 1839. Friedrich Mohs died.—Trained at Halle and the Mining Academy, Freiburg, in 1817 Mohs succeeded Werner in the chair of mineralogy at the latter institution. He was afterwards attached to the Imperial Academy of Vienna. His most important work was his "Grundriss der Mineralogie."

September 30, 1870. William Allen Miller died.—Appointed in 1845 to follow Daniell as professor of chemistry at King's College, London, Miller the same year made some of the earliest researches on the spectra of glowing gases—researches which in 1862 led to his pioneering work with Huggins in the spectra of the heavenly bodies.

October 1, 1768. Robert Simson died.—A devoted student of the Greek geometers, Simson for fifty years held the chair of mathematics at Glasgow. His edition of "The Elements of Euclid," published in 1756, was the basis of nearly all editions for more than a century.

October 1, 1895. Ernst von Rebeur-Paschwitz died.—As a *privat docent* at Halle and an assistant at Karlsruhe Observatory, Rebeur-Paschwitz, in spite of ill-health, made important observations in seismology and improved Zöllner's instruments. He died at the age of thirty-four.

October 2, 1848. Georg August Goldfuss died.—Called to Bonn from Erlangen as professor of zoology and mineralogy, Goldfuss held a high place among German mineralogists. With Münster he published the "Petrefacta Germaniæ," an uncompleted monumental work designed to illustrate the invertebrate fossils of Germany.

October 2, 1853. François Jean Dominique Arago died.—Rendered famous at an early age by his adventures when engaged on geodetical operations in Spain, Arago became one of the best-known men of science of his day. He made important discoveries in optics and electro-magnetism, zealously advocated the undulatory theory of light, and studied the physical properties of steam and other gases. With Gay Lussac he started the *Annales de Chimie et de Physique*, in 1830 became director of the Paris Observatory, and as permanent secretary to the Paris Academy of Sciences wrote many notable *éloges*. He was also one of the first successful popularisers of science and a politician.

October 2, 1901. Karl Rudolf König died.—A native of Germany, König settled in Paris as an instrument-maker, and afterwards gained a reputation for his excellent workmanship and for his numerous inquiries and experiments in acoustics.

October 2, 1905. Dewitt Bristol Brace died.—After studying at the Johns Hopkins and Berlin Universities, Brace about 1886 became professor of physics at Nebraska. He especially studied the action of the magnetic field upon light, and was also known for his refined experiments on the æther drift.

October 5, 1880. William Lassell died.—Lassell, while engaged in business as a brewer, constructed a Newtonian reflector, with which in 1847 he discovered a satellite to Neptune. In 1848 he discovered Hyperion, a satellite of Saturn, and in 1851 Ariel and Umbriel, satellites of Uranus.

October 5, 1912. Lewis Boss died.—After serving as astronomer to the United States Northern Boundary Commission, Boss became director of the Dudley Observatory, Albany, N.Y. Especially known for his work on proper motions and star catalogues and on the orbits of comets, in 1905 he was awarded the gold medal of the Royal Astronomical Society.

E. C. S.

Societies and Academies.

PARIS.

Academy of Sciences, September 12.—M. Léon Guignard in the chair.—R. **Serville**: The conical pendulum as affected by a screen.—L. **Dunoyer**: The induction spectrum of rubidium. The metal was distilled in a vacuum into a quartz tube and the latter placed in the field of a high-frequency alternating current. The tube is luminous even at the ordinary temperature, and is a bright violet-blue at 100° C. At 200° C. the colour changes to lilac. With an exposure of twenty minutes as many as 332 lines were photographed; the arc spectrum of rubidium contains about 30 lines, and the spark spectrum about 60. A list of the wave-lengths is given, of which only two appear in the arc or flame spectra.—R. **de Mallemann**: The inversion of the rotatory power of derivatives of tartaric acid.—Q. **Majorana**: The absorption of gravitation.—M. **Stuart-Mentiath**: Granitised outcrops of the border of the Pyrenees.—E. F. **Terroine** and R. **Wurmser**: The influence of temperature on the utilisation of glucose in the development of *Aspergillus niger*.

Books Received.

Aluminium and its Alloys: Their Properties, Thermal Treatment, and Industrial Application. By Lt.-Col. C. Grard. Translated by C. M. Phillips and H. W. L. Phillips. Pp. xxiii+184+17 plates. (London: Constable and Co., Ltd.) 17*s*. 6*d*. net

Life of Elie Metchnikoff, 1845–1916. By Olga Metchnikoff. (Authorised translation from the French.) Pp. xxiii+297. (London: Constable and Co., Ltd.) 21*s*. net.

Survey of India. Professional Paper, No. 18: A Criticism of Mr. R. D. Oldham's Memoir, "The Structure of the Himalayas and of the Gangetic Plain, as Elucidated by Geodetic Observations in India." By Lt.-Col. H. McC. Cowie. Pp. ii+33. (Dehra Dun: Trigonometrical Survey.) 3*s*.

Memoirs of the Geological Survey: Scotland. Description of Arthur's Seat Volcano. By Dr. B. N. Peach. Pp. 26. (London: E. Stanford, Ltd.; Southampton: Ordnance Survey Office.) 2*s*. 6*d*. net.

A Text-book of Aeronautical Engineering: The Problem of Flight. By Prof. H. Chatley. 3rd edition, revised. Pp. xii+150. (London: C. Griffin and Co., Ltd.) 15*s*. net.

Handbuch der biologischen Arbeitsmethoden. Edited by Prof. Dr. Emil Abderhalden. Abt. 10, Methoden der Geologie, Mineralogie, Paläobiologie, Geographie. Heft 1, Lieferung 28. Pp. 128. 21 marks. Heft 2, Lieferung 35. Pp. 129–312. 30 marks. Abt. 9, Methoden zur Erforschung der Leistungen des tierischen Organismus. Teil 1, Heft 1, Lieferung 34: Allgemeine Methoden. Pp. 96. 30 marks. Abt. 5, Methoden zum Studium der Funktionen der einzelnen Organe des tierischen Organismus. Teil 7, Heft 1, Lieferung 12: Sinnesorgane. Pp. 195. (Berlin und Wien: Urban und Schwarzenberg.)

Fisheries—England and Wales. Ministry of Agriculture and Fisheries. Fishery Investigations: Series 1: Freshwater Fisheries and Miscellaneous. Vol. 2, No. 1: The Methods of Fish Canning in England. Pp. 25. (London: H.M. Stationery Office.) 2*s*. 6*d*. net.

Annals of the South African Museum. Vol. 18, part 3, 5: The Odonata or Dragonflies of South Africa. By F. Ris. Pp. 245–452+plates 5–12. (London: Adlard and Son and West Newman, Ltd.) 30*s*.

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Flora of the Presidency of Madras. By J. S. Gamble. Part 4: *Rubiaceae* to *Ebenaceae*. Pp. 579–768. (London: Adlard and Son and West Newman, Ltd.) 10*s*. net.

Entropy as a Tangible Conception: An Elementary Treatise on the Physical Aspects of Heat, Entropy, and Thermal Inertia, for Designers, Students, and Engineers, and particularly for Users of Steam and Steam Charts. By Eng. Lieut.-Comdr. S. G. Wheeler. Pp. 76. (London: Crosby Lockwood and Son.) 8*s*. 6*d*. net.

Mikromethodik: Quantitative Bestimmung der Harn- und Blutbestaudteile in kleinen Mengen, für klinische und experimentelle Zwecke. By Dr. L. Pincussen. Pp. 116. (Leipzig: G. Thieme.) 28 marks.

Department of Applied Statistics (Computing Section), University of London, University College. Tracts for Computers, No. 5: Table of the Coefficients of Everett's Central-Difference Interpolation Formula. By A. J. Thompson. Pp. xvi+20. (London: Cambridge University Press.) 3*s*. 9*d*. net.

Nia Cintaga Pano kaj la Vivo. Serio de tridek doktrinoj pri dieto subtenitaj de kelkaj el la plej famaj homoj. Kompilita kaj Tradukita de W. W. Trainer. Dua Eldono. Pp. 71. (Glasgow: Fraser, Asher and Co., Ltd.; Author: 329 Langside Road, Glasgow.) S.250.

The Stages of Human Life. By J. Lionel Tayler. Pp. xiv+377. (London: J. Murray.) 18*s*. net.

The Heart of Nature; or, The Quest for Natural Beauty. By Sir Francis Younghusband. Pp. xxviii+235. (London: J. Murray.) 12*s*. net.

Columns: A Treatise on the Strength and Design of Compression Members. By Dr. E. H. Salmon. (Oxford Technical Publications.) Pp. xvi+279. (London: H. Frowde and Hodder and Stoughton.) 31*s*. 6*d*. net.

An Introduction to Physics for Technical Students. By P. J. Haler and A. H. Stuart. Pp. 240. (London: Library Press, Ltd.) 4*s*. 6*d*. net.

Ministry of Munitions and Department of Scientific and Industrial Research. Technical Records of Explosives, 1915–18, No. 3: Sulphuric Acid Concentration. Pp. vi+91. (London: H.M. Stationery Office.) 12*s*. net.

The Wit of the Wild. By Ernest Ingersoll. Pp. v+212. (London: G. Routledge and Sons, Ltd.) 6*s*. net.

The Care of the Adolescent Girl: A Book for Teachers, Parents, and Guardians. By Dr. Phyllis Blanchard. Pp. xxi+201. (London: Kegan Paul and Co., Ltd.) 7*s*. 6*d*. net.

Taboo and Genetics: A Study of the Biological, Sociological, and Psychological Foundation of the Family. By Dr. M. M. Knight, Dr. Iva L. Peters, and Dr. Phyllis Blanchard. Pp. xv+255. (London: Kegan Paul and Co., Ltd.; New York: Moffat, Yard and Co.) 10*s*. 6*d*. net.

Seven Ages of Childhood. By Ella L. Cabot. Pp. xxxiv+321. (London: Kegan Paul and Co., Ltd.) 12*s*. 6*d*. net.

Diary of Societies.

MONDAY, October 3.

Society of Engineers (at Geological Society), at 5.30.—G. O. Case: The Winning of Tidal Lands in British Guiana.

WEDNESDAY, October 5.

Royal Microscopical Society (in the Mortimer Halls, Mortimer Street, W.1), at 7.30.—Conversazione.

Entomological Society of London, at 8.

Chemical Industry Club (at 2 Whitehall Court).—Sir William J. Pope: Impressions of Canadian Tour.

THURSDAY, October 6.

Ceramic Society (Refractory Materials Section) (at Institution of Mechanical Engineers), at 10.30 a.m.—H. Dewey: Refractory Materials of the London Basin.—J. H. Marlow: The Marlow Gas-fired Tunnel Oven.—P. J. Woolf: A New Type of Tunnel Kiln, Oil-fired, with many Novel Features.—Dr. A. Granger: Aluminothermic Corundum as Refractory Materials.—Prof. J. W. Cobb and H. S. Houldsworth: The Reversible Thermal Expansion of Silica.—Discussion on Gas-firing.

Royal Aeronautical Society (at Royal Society of Arts), at 5.30.—Air-Commodore H. R. H. Brooke-Popham: Some Notes on Aeroplanes in Tropical Countries.

Chemical Society, at 8.—S. J. Lewis and F. M. Wood: A New Adjustable Thermostat for all Temperatures between 0° and 100°.—A. F. Dufton: The Separation of Miscible Liquids by Distillation. Laboratory Still-heads.—A. F. Dufton: The Separation of Miscible Liquids by Distillation. A Continuous Laboratory Still.—P. K. Dutt, H. R. Whitehead, and A. Wormall: The Action of Diazo-salts on Aromatic Sulphonamides. Part I.—A. B. Manning: Neutral Salt Action on the Hydrolysis of Ethyl Formate.—A. Shimomura and J. B. Cohen: Synthetic Optical Activity.—T. A. Henry and H. Paget: Chenopodium Oil.—C. K. Ingold and E. A. Perren: Experiments on the Synthesis of the Polyacetic Acids of Methane. An Addendum to Parts I. and III.—C. K. Ingold and W. J. Powell: Experiments on the Synthesis of the Polyacetic Acids of Methane. Part IV. The Preparation of β-carboxymethanetriacetic Acid.—The Late H. R. Le Sueur and C. C. Wood: The Mechanism of the Action of Fused Alkalis. Part II. Action of Fused Potassium Hydroxide on Phenylglyceric Acid.

FRIDAY, October 7.

Ceramic Society (Refractory Materials Section) (at Institution of Mechanical Engineers), at 10 a.m.—General Meeting.

West London Medico-Chirurgical Society (at West London Hospital), at 8.30.—Sir G. Lenthal Cheatle: A Study of Breast Cancer in Relation to the Cancer Problem (Presidential Address).

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